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Barriers to cataract surgery of persons screened at camps in Ibadan, Nigeria

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Abstract

Purpose: To determine barriers to uptake of cataract surgery by outreach patients at the University College Hospital, Ibadan and to make appropriate recommendations for improved cataract surgery uptake

Methods: Consenting cataract blind/visually impaired (presenting vision < 6/18) outreach patients identified from the outreach patient register of the University College Hospital, (UCH) Ibadan during a five months period (January to May 2009) were followed up for a visit in late June and July 2009. A semi-structured questionnaire schedule was used for data collection. People who did not use the services were administered a barriers questionnaire-schedule while those who accepted the services were administered a questionnaire schedule to elicit motivating factors for acceptance of services. Subjects were also examined using standard ophthalmic equipment (pen torch, ETDRS vision charts and ophthalmoscope) and information obtained recorded in a data entry form.

Results: A total of 186 subjects comprising 115 who had undergone cataract surgery and 71 who were yet to access cataract surgery services were followed up and included in the study. Reason for accessing surgery included awareness of quality service 63(57.0%), was referred 32(29.0%) and pressure from family or friends 13(12.0%). Barriers to access included, untreated medical problems 21(29.0%), not able to afford total (direct and indirect) cost of treatment 15(21.0%), cataract not mature 10 (14.0%), not able to afford cost of surgery 9(13.0%) and Dr's appointment 8(11.0%).

Conclusion: barriers to surgery uptake by outreach camp patients include cost of services, underlying medical problems and preferred doctors' practice. Adoption and scaling up of health insurance to cover those most in need as well as a change in preferred practice amongst eye care practitioners are possible areas for intervention.

Keywords: *Cataract, outreach camps, service barrier*

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Abstract

Objectif: déterminer les obstacles à l'absorption de la chirurgie de la cataracte par les patients de sensibilisation au centre hospitalier universitaire d'Ibadan et formuler des recommandations appropriées pour l'absorption chirurgicale de la cataracte amélioration

Méthodes: Le consentement de la cataracte aveugles / malvoyants (vision présentant <6/18) des patients identifiés à partir du registre de sensibilisation des patients du centre hospitalier universitaire d'Ibadan au cours d'une période de cinq mois (Janvier à mai 2009) ont été suivis au pendant une visite à la fin du mois de Juin et Juillet 2009. Un calendrier de questionnaire semi-structuré a été utilisé pour la collecte des données. Les gens qui n'ont pas utilisé les services ont été administrés un questionnaire-barrières horaires, tandis que ceux qui ont accepté les services ont été administrés un calendrier questionnaire visant à obtenir des facteurs de motivation pour l'acceptation des services. Les sujets ont été également examinés à l'aide du matériel ophtalmologique standard (stylo lampe de poche, cartes vision ETDRS et ophtalmoscope) et les renseignements obtenus ont été consignés dans un formulaire de saisie.

Résultats: Un total de 186 sujets comprenant 115 et qui avait subi une intervention chirurgicale de la cataracte et 71 qui n'avaient pas encore accédé aux services de chirurgie de la cataracte ont été suivis et inclus dans l'étude. L'une des raisons pour accéder à la chirurgie comprenait la sensibilisation sur la qualité du service 63(57,0%), 32 (29,0%) sont référés et la pression de la famille ou des amis 13 (12,0%). Les obstacles à l'accès inclus, les problèmes médicaux non traités 21 (29,0%), ce qui ne peuvent supporter le coût total (direct et indirect) de traitement 15 (21,0%), la non maturité de la cataracte 10 (14,0%), Ceux qui ne sont en mesure de payer le coût de la chirurgie 9 (13,0%) et la nomination du Dr 8 (11,0%).

Conclusion: Les obstacles à l'absorption par la chirurgie les patients des camps de sensibilisation comprennent le coût des services, soulignant les problèmes médicaux et la pratique préférentielle des médecins. L'adoption et la mise à l'échelle de l'assurance maladie pour couvrir ceux qui en ont besoin d'urgence ainsi qu'un changement dans la pratique préférée parmi les praticiens de soins oculaires sont les domaines possibles d'intervention.

Introduction

Cataract is a common cause of blindness and visual impairment. Recent global estimate showed that it accounts for over 39% of the 45million total global blindness [1]. Many developing countries have a heavy burden of blindness due to cataract with over 50% of blindness due to cataract as opposed to only 5% in industrialized economies [2]. The 2005-2007 blindness and visual impairment survey in Nigeria revealed a blindness prevalence (presenting vision) of 4.2%, with South West Nigeria having the least prevalence of 2.8% out of the six geopolitical administrative zones of Nigeria. Cataract was responsible for 43.0% of cases [3]. Despite the high prevalence many parts of Africa still have low cataract surgical rates of less than 500 per million population which is far from 2000 per million population recommended by the World Health Organization [4,5]. Many reasons are responsible for the poor uptake of cataract surgical services in developing countries. In the blindness survey by Rabiun in Northern Nigeria, cataract was responsible for 44% of blindness but cataract surgical coverage was only 4%. The main barrier to use of services identified was cost and it was recommended that free outreach services should be used as a strategy to overcome this barrier [6]. A study to determine coverage, outcome, and barriers to uptake of cataract surgery in leprosy villages of north eastern Nigeria also found cost as an important barrier for not accessing cataract surgical services [7]. Distance to hospital and cost of surgery were reported by Oluleye as main barriers to accessing service by rural communities served by a health facility managed by a tertiary hospital in South Western Nigeria [8].

Cost of surgery was also mentioned as a significant barrier in a study from the upper East region of Ghana but also worthy of note were barriers such fear, lack of escort and being able to cope with the disability [9]. A study which examined a group of none acceptors of surgery from an outreach in Nepal found economic and logistical constraints, fear of surgery and lack of time as the main barriers to surgery even when subjects were offered free surgery and transport. Males were also more likely to access surgery than females [10]. A change in the trend of barriers to cataract surgery has been reported from Southern India with case selection and the nature of service provision assuming greater importance than previously reported barriers such as patient's lack of awareness, attitude and ability to afford service [11]. Reports from China suggests that lack of patient knowledge about cataract surgical treatment, concerns

over quality of services and residual functional vision were important barriers to surgery in rural China [12,13].

The use of outreach service has been advocated as a strategy to overcome some of the barriers associated with the use of surgical services. However studies from India and Tanzania have shown that a high proportion of people who could have benefited from eye treatment through outreaches were not using available services. The need to contact family members, lack of access to personal funds, stigma, fatalism and old age were observed limiting factors [14-16].

The University College Hospital (UCH) Ibadan started a formal outreach screening camp service in 2006, and the cataract surgical output gradually increased subsequently. Anecdotal reports however suggest that only a portion of eligible outreach cataract patients offered subsidized surgery eventually accessed cataract surgical services.

The aim of this study was therefore to identify barriers to acceptance of surgical services as well as factors that promote acceptance of surgery offered at subsidized cost at outreach screening camps to enable recommendations that would help program authorities make required adjustments for optimum service utilization by cataract outreach patients

Materials and methods

A historical cohort design was used for the study. Ethical approval was obtained from the London School of Hygiene and Tropical Medicine and the University of Ibadan/ University college Hospital institutional ethical committees. The study was carried out in line with declaration of Helsinki for studies on human subjects.

The study took place at the University college Hospital Ibadan and its outreach locations in Oyo and Osun states of Nigeria. The locations varied from schools to churches, health centres, General hospitals, home of the local chief to markets. Some were organized regularly at same location monthly while others were one off events. The outreach team consisted of a camp organizer, one or two public health nurses, a records officer, nursing assistant and one or two trainee ophthalmologists. A total of 20 outreach locations were used with their distance from UCH ranging from 5 to 210 minutes drive (mean 57.6 minutes drive). The services provided by the team included simple refraction with prescription of glasses, treatment of minor eye ailments and identification of cataract for referral to UCH.

Recruitment of subjects

All adult patients who had been screened at camp sites of the University College Hospital, Ibadan and identified to have vision impairing cataract (<6/18) in one or both eyes between January 1st and May 31st 2009 had their records extracted from the outreach register. They had their base line contact information, camp location, visual acuity and lens examination findings extracted from the register. These patients were visited in their homes or seen during follow up visit in outpatients clinic later during the month of July 2009 (between 6 weeks and 6 months) by the study team comprising one research assistant a driver and the principal investigator (PI). All interviews were done by the assistant who had been recruited and trained for this purpose while the principal investigator carried out all examinations.

Eligible subjects were informed and invited to participate in the study. Consenting subjects were further interviewed and examined to determine their current cataract/ post operative status. Examination was done using ETDRS vision charts, pen light and direct ophthalmoscope to confirm existence of cataract, pseudophakia, aphakia or other sight threatening eye conditions. All subjects had their vision determined using the ETDRS vision chart at 2 meters using sunlight illumination outside, followed

by examination with pen torch and direct ophthalmoscope in the living room of the subject.

Data collection and analysis

All recruited subjects were interviewed using a standardized questionnaire. The questionnaire sought information on socio-demographic characteristics, including, age, gender, marital status, literacy, ethnicity, religion, occupation, average monthly income to household, and number of members in household. Subjects were also asked how they rated their eyesight with or without glasses if they wore any.

People who did not use the services were administered a barriers questionnaire-schedule while those who accepted the services were administered a questionnaire schedule to elicit motivating factors for acceptance of services. The questionnaire was translated into the local language and back translated to ensure consistency. The administrator of the questionnaire was also trained and a pilot study on ten subjects who were not included in the analysis carried out before the commencement of the study. Subjects who had been operated were asked where it was done and if at UCH why UCH was chosen. Those operated elsewhere were asked why UCH was not chosen. Subjects still awaiting surgery were asked why they were yet to have their surgeries done.

Table 1: Socio demographic characteristics and acceptance of surgery

Characteristic	Not accept surgery	Adjusted odds ratio	P	95% CI
Gender	Female (35%)		0.4	
	Male (41.9%)	1.37		0.7-2.7
Age	Over 65yrs (37.4)		0.8	0.5-2.2
	Less than 65yrs(39.7%)	1.1		
Location away from hospital	Over 45min (36.5%)		0.6	0.6-2.0
	Less than 45min (39.6%)	1.9		
Marital status	Married (39.25)		0.8	0.4-2.0
	Single (36.1%)	0.9		
Education	Formal (40.0%)		0.7	0.5-1.6
	None (36.5%)	0.88		
Monthly Income	Less surgery cost (37.3%)		0.8	0.7-2.1
	Over surgery cost(38.7%)	1.1		
Self assessed vision	Not satisfactory (37.8%)		0.9	0.7-1.5
	Satisfactory (40.0%)	1.2		
Number of people in household	1-2 (28.9%)			0.6-1.4
	3 or more (39.0%)	0.9	0.6	
Visual acuity	<3/60(47.0%)		0.5	0.5-4
	>3/60 (57.1%)	1.4		
Occupation	Land owner/ professional (36.0%)		0.1	0.8-7.9
	Skilled /unskilled labour (60%)	2.5		

Their response about barriers was compared and marked against a list of barriers in the questionnaire (adopted from previous similar studies) [6-9, 17] and where they were found to be different from existing list they were written down separately in the form. The list of barriers included cost (direct /indirect), fear (poor outcome, death), lack of awareness (of problem, available effective treatment), no felt need, no time, hospital not receptive. The number of barriers listed per subject was not restricted.

Data was presented with the aid of frequency distribution tables. Statistical analysis was done using Stata package version 10. Odds ratios and 95% confidence intervals were determined to identify factors associated with not doing surgery.

Results

Only 186 (80.9%) out of 230 eligible subjects with cataract followed up during the study could be located and were included in determining barriers affecting the uptake of cataract surgery by patients screened in outreach camps. Seventy one (61.7%) of those who were still awaiting surgery as against 115 (100%) who had received surgery was found.

There was no statistically significant difference in the socio-demographic characteristics of those who accessed surgery and those who did not. People with poorer vision (<3/60-LP) had higher uptake of surgery, 108/171 (63.2 %) compared with those having better vision(>6/60-3/60), 7/15 (46.7%) Table 1.

Reason for doing surgery in UCH included awareness of quality service in UCH 63(57.0%), was referred 32(28.0%) and pressure from family or friends 13(12.0%) Figure 1.

Barriers to cataract surgery

The reasons for not having had cataracts operated included unresolved patient’s medical problem (uncontrolled hypertension or diabetes) 21(29.0%), not able to afford total (direct and indirect) cost of treatment 15(21.0%), cataract not mature 10(14.0%), not able to afford cost of surgery 9(13.0%), doctors appointment (theatre not available because of clean up/ fumigation) 8(11.0%) Figure 2.

For 15 subjects who delayed for one month or more after referral before accessing cataract surgery, the reasons given for the delay included delay with treatment of underlying medical problem 6 (40.0%), told by attending doctor cataract not ‘mature enough’ for surgery 3(20.0%) Figure 3.

Recommendations made by 21 subjects to enable their accessing cataract services include financial support 12(54.6%), medical treatment for underlying ailment 8(36.4%) and guaranteed good surgical outcome 1(4.6%).

Discussion

This study observed no statistically significant difference in the socio-demographic and economic characteristics between accepters and non accepters of surgery. This is similar to a recent study from Kenya which examined the influence of rumours in refusing free surgery [18]. Knowing persons who had successful surgery were found to be strong predictors for accepting surgery while pervasive

Figure 1: why surgery done in U.C.H.

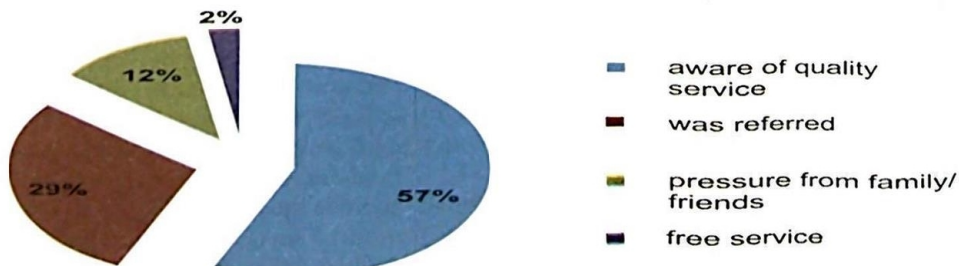


Figure 2: Why surgery not done

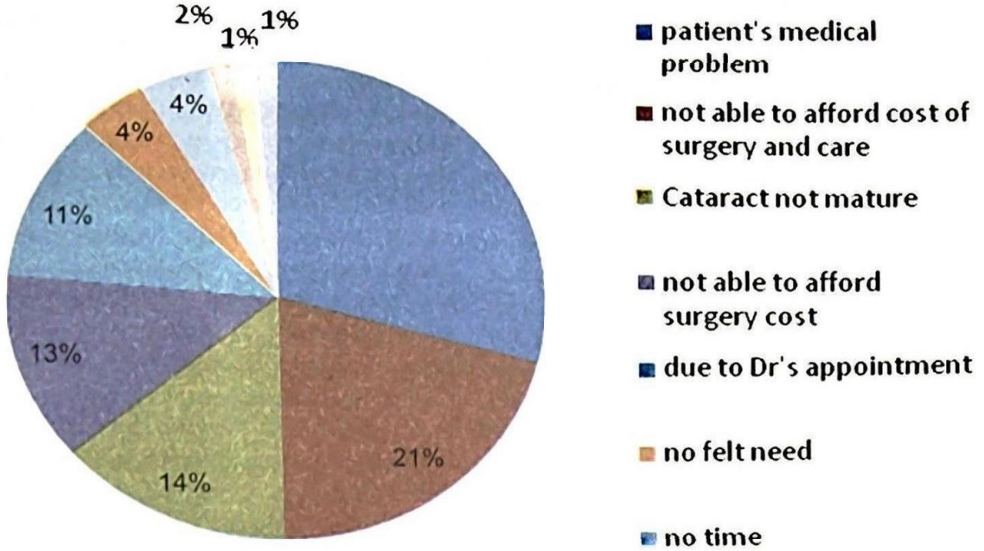
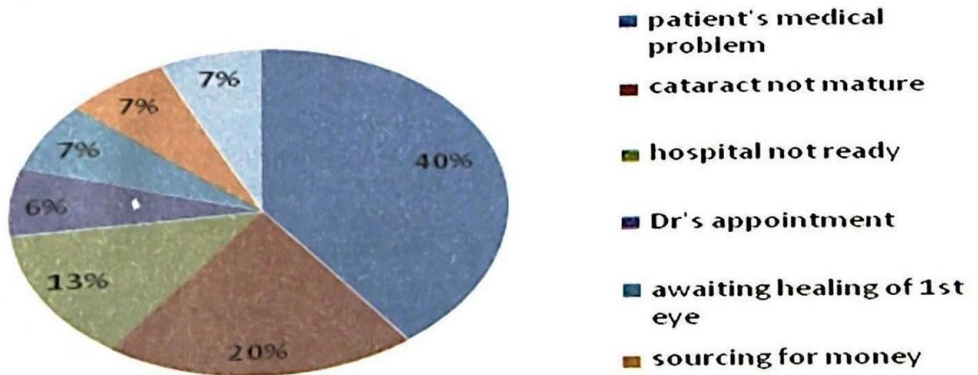


Figure 3: Why surgery delayed >30days



negative rumours of previous failed surgeries (which in most cases were due to other posterior segment diseases notably advanced glaucoma rather from cataract) were strongly associated with not accessing surgeries more than socio demographic characteristics. This suggests that the situation in

Africa may be more complex than was previously believed. Earlier studies identified socio-demographic characteristics such as female gender, older age, low income, and distance from facility as factors which were markers of poor access [9,16,19]. These recent findings call for a greater effort at ensuring quality surgeries, adequate case selection to ensure that

patients with co-morbidities such as advanced glaucoma are excluded from cataract surgical lists and adequate health education given to the communities to ensure a better understanding of cataract and other causes of blindness and their treatment in African settings.

The main barriers reported by patients as being responsible for not accessing cataract services were related to cost of service and upkeep (accounting for over a third of those awaiting surgery), underlying medical problem (also by a third) and doctors appointment by 1 in 10 of those affected. Cost of services has previously been reported to be an important barrier for poor utilization of services in Northern as well as in Southern Nigeria [6-8], Ghana [9], India [15], Pakistan [20] and amongst a US Hispanic population [21]. The University College Hospital, Ibadan subsidizes the cost of cataract surgery for outreach patients by about 45% (unsubsidized cost of surgery is about \$ 100 USD) but even with this, many still found it difficult to access services. It is noteworthy that 37.3% of subjects with average monthly income less than operation fees compared to 38.7% with income above operation fees failed to access surgery. The widespread level of poverty in Nigeria with over 70% of the population living below poverty level does not allow for communities to come to the aid of individuals with visual impairment [22]. The National Health Insurance Scheme is unfortunately still in its infancy in Nigeria and is currently only available to civil servants mostly at the Federal level. It is not yet accessible to most of these with visual impairment in rural underserved communities. There is therefore need for the various tiers of Government to consider extending it to the rural communities served by them. Scaling up of the Ghana national health insurance coverage was recently shown to have progressively markedly improved cataract harvesting in that neighboring African country [23-25].

Underlying medical problems were also a prominent reason for delay or not accessing surgical services. This appears unique to this study because it was not a common barrier in previous studies. Most of those with medical problems were due to uncontrolled hypertension. Rather than abandon such patients to their fate as is the case in many instances, close cooperation and an adequately monitored referral system between the outreach team and the General outpatient family physicians of the University College Hospital would ensure that such patients are promptly treated and subsequently operated for their cataract once the medical problem is adequately controlled.

One in five patients who had their surgery delayed was because of doctor's appointment or they were told their cataracts were not mature. There is an urgent and pressing need for the outreach team and the department of Ophthalmology UCH to review its criteria for operating cataracts in outreach patients. Indication for cataract surgery should include blindness prevention and not just for curing blindness as is currently practiced with those operated primarily having visual acuity of between 3/60 – Light Perception. Ophthalmologists in developing countries need to be sensitized to be more aggressive in recruiting cataract patients for surgery so as not to lose them to couching. A practice which was reported to account for almost half of the procedure for cataract in a recent survey in Nigeria and has been reported to have remained rampant and competes with conventional cataract surgery in many developing countries [26-30]. The availability of biometric facilities and high precision intra-ocular lenses should make it possible to extend the criteria to functional vision impairment or best corrected visual acuity of 6/18-6/24 in the affected eye. Being told cataracts were immature was also reported as a barrier to cataract surgery by studies in India [31].

Anecdotal reports suggests that many government owned hospitals such as UCH in developing countries have a lot of facility related barriers due to bureaucratic process which often made patients prefer private care. Bad facility reputation is a well reported barrier to access [32]. However no respondent gave poor facility reputation as reason for not accessing cataract services in this study. Of those who accessed services awareness of quality service in UCH, referral from outreach health services and pressure from family and friends were the main reasons for accessing UCH. This underscores the need for eye care providers in developing countries to acquire and maintain good reputation for their facilities by ensuring quality assurance and regular monitoring of outcome at all times.

Only 61.7% of those awaiting surgery compared to 100% of those who had surgery could be located and were included in the final analyses. This was due to difficulties with locating subjects associated with poor numbering of houses which made follow up difficult. It is also a reflection of the outreach camp recording system. The high follow up rate of those who had obtained surgery was because many of them who were not located at home were finally seen in the hospital when they returned for follow up of their eyes or came for refraction. Therefore there is a bias in the tracing procedure and is a limitation of the study.

Conclusion

The study identified barriers to use of cataract service by persons screened in outreach camps to include cost of services, underlying medical problem and preferred doctors' practice. Adoption and scaling up of health insurance to cover those most in need as well as a change in preferred practice amongst eye care practitioners are possible areas for intervention. Areas for further research include evaluation of the risk of having cataract surgery in patients with other medical conditions and monitoring of patients paying capacity.

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